

WHAT IS CLAIMED IS:

1. A data streaming system, comprising:
  - a data storage device providing an intermittent data stream; the data storage device also including an environment sensor and generating a variable time-to-fill estimate as a function of a sensor output;
  - a buffer circuit receiving the intermittent data stream, providing a buffer data stream, and generating a time-to-exhaust estimate; and
  - a comparator receiving the time-to-fill and time-to-exhaust estimates and generating a comparator output that couples to the data storage device to control energization of the data storage device.
2. The data streaming system of Claim 1 wherein the control of the energization prevents exhausting of data stored in the buffer circuit.
3. The data streaming system of Claim 1 wherein the intermittent data stream has a first data transmission rate, and the buffer data stream has a second data transmission rate that is slower than the first data transmission rate.
4. The data streaming system of Claim 1 wherein the intermittent data stream refills the buffer circuit before the buffer circuit is depleted of data, so that the buffer data stream is a continuous data stream.
5. The data streaming system of Claim 1 wherein the energization cycles on and off to reduce energy consumption in the data streaming system.
6. The data streaming system of Claim 1 wherein the buffer data stream has a bit rate that is controllable by a command received from an output device.

7. The data streaming device of Claim 1 wherein the data storage device further comprises a data streaming rate estimate output that is couplable to an output device.
8. The data streaming device of Claim 1 wherein the environmental sensor comprises an acceleration sensor.
9. The data streaming device of Claim 1 wherein the environmental sensor comprises a loss-of-read-channel-data sensor.
10. The data streaming device of Claim 1 wherein the environmental sensor comprises a humidity sensor.
11. The data streaming device of Claim 1 wherein the environmental sensor comprises a temperature sensor.
12. The data streaming device of Claim 1 wherein the environmental sensor comprises a low battery sensor.
13. The data streaming device of Claim 1 wherein the data storage device comprises a hard disc drive.
14. The data streaming device of Claim 1 wherein the data storage device is mounted in a portable device subject to environmental shock.
15. A method of data streaming, comprising:
  - coupling an intermittent data stream from a data storage device to a buffer circuit that provides a buffer data stream;

coupling a variable time-to-fill estimate that is a function of an environmental sensor output, and a buffer time-to-exhaust estimate to a comparator; and  
controlling energization of the data storage device by generating a comparator output that couples to the data storage device.

16. The method of Claim 15 further comprising:

preventing exhaustion of the buffer circuit by the controlling of energization.

17. The method of Claim 15 further comprising:

transmitting data from the data storage device at a faster rate than transmission of data from the buffer circuit.

18. The method of Claim 15 further comprising:

refilling the buffer circuit with data from the intermittent data stream before the buffer circuit is depleted of data.

19. The method of Claim 15 further comprising:

reducing energy consumption in the data storage device by cycling the energization on and off.

20. The method of Claim 15 further comprising:

controlling a bit rate of the buffer data stream by an output device.

21. The method of Claim 15 further comprising:

the environmental sensor sensing an environmental variable selected from the group: acceleration, loss-of-read-channel-signal, humidity, temperature, low battery.

22. The method of Claim 15 further comprising:

coupling a data streaming rate estimate output from the data storage device to an output device.

23. The method of Claim 15 further comprising:

mounting the data storage device in a portable device subject to environmental shock.

24. A data streaming system, comprising:

a data storage device providing an intermittent data stream; the data storage device also including an environment sensor and generating a variable time-to-fill estimate as a function of a sensor output;

a buffer circuit receiving the intermittent data stream, providing a buffer data stream; and

comparator means for receiving the time-to-fill estimate and a time-to-exhaust estimate and for controlling energization of the data storage device.

25. The data streaming system of Claim 24 wherein the controlling of energization prevents exhausting the buffer circuit.

26. The data streaming system of Claim 24 wherein the controlling of energization reduces energy consumption on the data streaming system.

27. The data streaming device of Claim 24 wherein the environmental sensor senses acceleration.